COMMENTS AND SUGGESTIONS OF UFO PANEL

General.

The Panel Members were impressed with the lack of sound data in the great majority of case histories. Among the case histories of significant sightings discussed in detail were the following:

Bellefontaine, Ohio (1 August 1952); Tremonton, Utah (2 July 1952); Great Falls, Montana (15 August 1950); Yaak, Montana (1 September 1952); Washington, D.C. area (19 July 1952); and Haneda A.F.B., Japan (5 August 1952), Port Huron, Michigan (29 July 1952); and Presque Isle, Maine (10 October 1952).

After review and discussion of these cases (and about 15 others, in less detail), the Panel concluded that reasonable explanations could be suggested for most sightings and "by deduction and scientific method it could be induced (given additional data) that other cases might be explained in a similar manner". The Panel pointed out that because of the brevity of some sightings (e.g., 2-3 seconds) and the inability of the witnesses to express themselves clearly (semantics) that conclusive explanations could not be expected for every case reported. Furthermore, it was considered that, normally, it would be a great waste of effort to try to solve most of the sightings, unless such

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action would benefit a training and educational program (see below). The writings of Charles Fort were referenced to show that "strange things in the sky" had been recorded for hundreds of years. It appeared obvious that there was no single explanation for a majority of the things seen.

On Lack of Danger.

The Panel concluded unanimously that there was no evidence of a direct threat to national security in the objects sighted. Instances of "Foo Fighters" were cited. These were unexplained phenomena sighted by aircraft pilots during World War II in both European and Far East theaters of operation wherein "balls of light" would fly near or with the aircraft and maneuver rapidly. They were believed to be electrostatic (similar to St. Elmo's fire) or electromagnetic phenomena or possibly light reflections from ice crystals in the air, but their exact cause or nature was never defined. If the term "flying saucers" had been popular in 1943-1945, these objects would have been so labeled.

Air Force Reporting System.

It was the Panel's opinion that some of the Air Force concern over UFO's (notwithstanding Air Defense Command anxiety over fast radar tracks) was probably caused by public pressure. The result today is that the Air Force

has instituted a fine channel for receiving reports of nearly anything anyone sees in the sky and fails to understand. This has been particularly encouraged in popular articles on this and other subjects, such as space travel and science fiction. The result is the mass receipt of low-grade reports which tend to overload channels of communication with material quite irrelevant to hostile objects that might some day appear. The Panel agreed generally that this mass of poor-quality reports containing little, if any, scientific data was of no value. Quite the opposite, it was possibly dangerous in having a military service foster public concern in "nocturnal meandering lights". The implication being, since the interested agency was military, that these objects were or might be potential direct threats to national security. Accordingly, the need for deemphasization made itself apparent. Comments on a possible educational program are enumerated below.

It was the opinion of one of the Panel members that the "saucer" problem had been found to be different in nature from the detection and investigation of German V-1 and V-2 guided missiles prior to their operational use in World War II. In this 1943-1944 intelligence operation (CROSSBOW), there was excellent intelligence, and by June

1944 there was material evidence of the existence of "hardware" obtained from crashed vehicles in Sweden. This evidence gave the investigating team a basis upon which to operate. The absence of any "hardware" resulting from unexplained UFO sightings lends a "will-of-the-wisp" nature to the problem. The results of the investigation, to date, strongly indicate that no evidence of hostile act or danger exists. Furthermore, the current reporting system would have little value in the case of detection of enemy attack by conventional aircraft or guided missiles; under such conditions "hardware" would be available almost at once.

Artifacts of Extraterrestial Origin.

It was interesting to note that none of the members of the Panel were loath to accept that this earth might be visited by extraterrestrial intelligence beings of some sort, some day. What they did not find was any evidence that related the objects sighted to space travelers. One of the Panel members, in his presentation, showed how he had eliminated each of the known and probable causes of sightings leaving him "extra-terrestial" as the only one remaining in many cases. His background as an aeronautical engineer and technical intelligence officer could not be slighted. However, the Panel could not accept any of

the cases cited by him because they were raw, unevaluated reports. Terrestrial explanations of the sightings were suggested in some cases, and in others the time of sighting was so short as to cause suspicion of visual impressions. It was noted by others of the Panel members that extra-terrestrial artifacts, if they did exist, are no cause for alarm; rather, they are in the realm of natural phenomena subject to scientific study, just as cosmic rays were at the time of their discovery 20 to 30 years ago. This was an attitude in which another of the Panel members did not concur, as he felt that such artifacts would be of immediate and great concern not only to the U.S. but to all countries. (Nothing like a common threat to unite peoples!) It was noted that present astronomical knowledge of the solar system makes the existence of intelligence beings (as we know the term) elsewhere than on the earth extremely unlikely, and the concentration of their attention by any controllable means confined to any one continent of the earth quite preposterous.

Tremonton, Utah, Sighting.

This case was considered significant because of the excellent documentary evidence in the form of Kodachrome motion picture films (about 1600 frames). The Panel

studied these films, the case history, ATIC's interpretation, and received a briefing by representatives of the USN Photo Interpretation Laboratory on their analysis of the film. This team had expended (at Air Force request) approximately 1000 man-hours of professional and sub-professional time in the preparation of graph plots of individual frames of the film, showing apparent and relative motion of objects and variation in their light intensity. It was the opinion of the P.I.L. representatives that the objects sighted were not birds, balloons or aircraft, were "not reflections because there was no blinking while passing through 60° of arc" and were, therefore, "self-luminous". Plots of motion and variation in light intensity of the objects were displayed. While the Panel Members were impressed by the evident enthusiasm, industry and extent of effort of the P.I.L. team, they would not accept the conclusions reached. Some of the reasons for this were as follows:

a. A semi-spherical object can readily produce a reflection of sunlight without "blinking" through 60° of arc travel.

b. Although no date was available on the "albedo" of birds or polyethylene balloons

in bright sunlight, the apparent motions, sizes and brightnesses of the objects were considered strongly to suggest birds, particularly after the Panel viewed a short film showing high reflectivity of seagulls in bright sunlight.

c. P.I.L. description of the objects sighted as "circular, bluish-white" in color would be expected in cases of specular reflections of sunlight from convex surfaces where the brilliance of the reflection would obscure other portions of the object.

d. Objects in the Great Falls case were believed to have probably been aircraft, and the bright lights such reflections.

e. There was no valid reason for the attempt to relate the objects in the Tremonton sighting to those in the Great Falls sighting. This may have been due to misunderstanding in their directive. The objects in the Great Falls sighting are strongly suspected of being reflections of aircraft known to have been in the area.

f. The intensity change in the Tremonton lights was too great for acceptance of the P.I.L. hypothesis that the apparent motion and changing

intensity of the lights indicated extremely high speed in small orbital paths.

g. Apparent lack of guidance of investigators by those familiar with UFO reports and explanations.

h. Analysis of light intensity of objects made from duplicate rather than original film. The original film was noted to have a much lighter background (affecting relative brightness of object) and the objects appeared much less bright.

i. Method of obtaining data of light intensity appeared faulty because of unsuitability of equipment and questionable assumptions in making averages of readings.

j. No data had been obtained on the sensitivity of Kodachrome film to light of various intensities using the same camera type at the same lens openings.

k. Hand "jitter" frequencies (obtainable from early part of Tremonton film) were not removed from the plots of the "single pass plots" at the end of the film.

The Panel believed strongly that the data available on this sighting was sufficient for positive identification if further data is obtained by photographing polyethylene "pillow" balloons released near the site under similar weather conditions, checking bird flight and reflection characteristics with competent ornithologists and calculating apparent "G" forces acting upon objects from their apparent tracks. It was concluded that the results of such tests would probably lead to creditable explanations of value in an educational or training program. However, the Panel noted that the cost in technical manpower effort required to follow up and explain every one of the thousand or more reports received through channels each year (1,900 in 1952) could not be justified. It was felt that there will always be sightings, for which complete data is lacking, that can only be explained with disproportionate effort and with a long time delay, if at all. The long delay in explaining a sighting tends to eliminate any intelligence value. The educational or training program should have as a major purpose the elimination of popular feeling that every sighting, no matter how poor the data, must be explained in detail. Attention should be directed to the requirement among scientists that a new phenomena, to be accepted, must be completely and convincingly documented.

In other words, the burden of proof is on the sighter, not the explainer.

Potential Related Dangers.

The Panel Members were in agreement that although evidence of any direct threat from these sightings was wholly lacking, related dangers might well exist resulting from:

a. Misidentification of actual enemy artifacts by defense personnel.

b. Overloading of emergency reporting channels with "false" information ("noise to signal ratio").

c. Subjectivity of public to mass hysteria and greater vulnerability to possible enemy psychological warfare.

The first two of these problems may seriously affect the Air Defense intelligence system, and should be studied by experts, possibly under ADC. If UFO's become discredited in a reaction to the "flying saucer" scare, or if reporting channels are saturated with false and poorly documented reports, our capability of detecting hostile activity will be reduced. More competent screening or filtering of reported sightings at or near the source is

required, and this can best be accomplished by an educational program.

Geographic Locations of Unexplained Sightings.

The map prepared by ATIC showing geographic locations of officially reported unexplained sightings (1952 only) was examined by the Panel. This map showed clusters in certain strategic areas such as Los Alamos. This might be explained on the basis of 24-hour watchful guard and awareness of security measures near such locations. On the other hand, there had been no sightings in the vicinity of sensitive related AE establishments while there were occasionally multiple cases of unexplained sightings in non-strategic areas. Furthermore, there appeared to be no logical relationship to population centers. The Panel could find no ready explanation for these clusters. It was noted, however, that if terrestrial artifacts were to be observed, it would be likely that they would be seen first near foreign areas rather than central U.S.

Instrumentation to Obtain Data.

The Panel was of the opinion that the present ATIC program to place 100 inexpensive 35 mm. stereo cameras (Videon Cameras) in the hands of various airport control tower operators would probably produce little valuable

data related to UFO's. However, it was recognized that such action would tend to allay public concern in the subject until an educational program had taken effect. It was believed that procurement of these cameras was partly the result of public pressure in July 1952. With the poor results of the year-long Project TWINKLE program of 24-hour instrumentation watch (two frames of film showing nothing distinguishable), a widespread program of skywatching would not be expected to yield much direct data of value.

There was considerable discussion of a possible "sky patrol" by amateur astronomers and by wide-angle cameras. It was pointed out that at present a considerable fraction of the sky is now -- and has been for many years -- under surveillance every clear night in several meteor and aurora observing programs as well as sky mapping programs at the various locations listed below. Although the attention of these astronomers is largely directed toward identified rather than unidentified objects, no case of any striking unidentified object is known to the Panel. Such an object would most certainly be reported if found on patrol plates.

A case was cited where an astronomer refused to interrupt his exposure in order to photograph an alleged sighting in a different part of the sky, suggesting that if

a program of watching could be an adjunct of planned astronomical programs, little cost would be involved and that the trained astronomical personnel might photograph a sighting of an unidentified object.

It was agreed by the Panel that no government-sponsored program of optical nation-wide sky patrol is worthwhile at the present time, and that the encouragement of amateur astronomers to undertake such a program might have the adverse effect of over-emphasizing "flying saucer" stories in the public mind. However, the issue of radar-scope cameras for recording peculiar radar echoes would serve several purposes, including the better understanding of radar interference as well as identification of UFO's.

Radar Problem of Mutual Interference.

This characteristic problem of radar operation wherein the pulse signal (of approximately the same frequency) from station A may be picked up on the screen of station B and show as a high-speed track or series of dots was recognized to have probably caused a number of UFO reports. This problem was underlined by information received indicating ADC concern in solving this problem of signal identification before service use of very high-speed aircraft or guided missiles (1955-1956). One

Panel member believed that one answer to this problem was the use of a "doppler filter" in the receiving circuit. Another suggested that the problem might be better solved by the use of a "controlled jitter" wherein the operator receiving "very fast tracks" (on the order of 1000-10,000 mph) would operate a circuit which would alter slightly his station's pulse frequency rate. If the signal received on the screen had been caused by mutual interference with another station, the track would now show itself at a different distance from the center of the screen, if it still appeared at all. Such a technical solution was thought to be simpler and would cost much less than a "doppler filter".

Unexplained Cosmic Ray Phenomena.

Two reported cases were examined: one at Palomar Mountain, California, in October 1949, when cosmic ray counters went "off scale for a few seconds", apparently while a "V" of flying saucers was observed visually; and two, a series of observations by the "Los Alamos Bird Watchers Association" from August 1950 to January 1951, when cosmic ray coincidence counters behaved queerly. Circuit diagrams and records were available for the latter, and a Panel member was also quickly to point out that the recorded data were undoubtedly due to instrumental effects

that would have been recognized as such by more experienced observers.

The implication that radioactive effects were correlated with unidentified flying objects in these two cases was, therefore, rejected by the Panel.

Educational Program.

The Panel's concept of a broad educational program integrating efforts of all concerned agencies was that it should have two major aims: training and "debunking".

The training aim would result in proper recognition of unusually illuminated objects (e.g., balloons, aircraft reflections) as well as natural phenomena (meteors, fireballs, mirages, noctilucent clouds). Both visual and radar recognition are concerned. There would be many levels in such education from enlisted personnel to command and research personnel. Relative emphasis and degree of explanation of different programs would correspond to the categories of duty (e.g., radar operators; pilots; control tower operators; Ground Observer Corps personnel; and officers and enlisted men in other categories). This training should result in a marked reduction in reports caused by misidentification and resultant confusion.

The "debunking" aim would result in reduction in public interest in "flying saucers" which today evokes a

strong psychological reaction. This education could be accomplished by mass media such as television, motion pictures, and popular articles. Basis of such education would be actual case histories which had been puzzling at first but later explained. As in the case of conjuring tricks, there is much less stimulation if the "secret" is known. Such a program should tend to reduce the current gullibility of the public and consequently their susceptibility to clever hostile propaganda.

Members of the Panel had various suggestions related to the planning of such an educational program. It was felt strongly that psychologists familiar with mass psychology should advise on the nature and extent of the program. Also, someone familiar with mass communication techniques, perhaps an advertising expert, would be helpful. The teaching techniques used for aircraft identification during the past war were cited as an example of a similar educational task. The amateur astronomers in the U.S. might be a potential source of enthusiastic talent "to spread the gospel". It was believed that business clubs, high schools, colleges, and television stations would all be pleased to cooperate in the showing of documentary type motion pictures if prepared in an interesting manner.

The use of true cases showing first the "mystery" and then the "explanations" would be forceful.

To plan and execute such a program, the Panel believed was no mean task. The current investigatory group at ATIC would, of necessity, have to be closely integrated for support with respect to not only the historical cases but the current ones. Recent cases are probably much more susceptible to explanation than older ones; first, because of ATIC's experience and, secondly, their knowledge of most plausible explanations. The Panel believed that some expansion of the ATIC effort would certainly be required to support such a program. It was believed inappropriate to state exactly how large a Table of Organization would be required.

The Panel believed that, with ATIC's support, the educational program of "training and debunking" outlined above might be required for a minimum of one and one-half to two years. At the end of this time, the dangers related to "flying saucers" should have been greatly reduced if not eliminated. Cooperation from other military services and agencies concerned (e.g., Federal Civil Defense Administration) would be a necessity. In investigating significant cases (such as the Tremonton, Utah, sighting), controlled experiments might be required. An example would be the

photographying of "pillow balloons" at different distances under similar weather conditions at the site.

The help of one or two psychologists and writers and a subcontractor to produce training films would be necessary in addition. The Panel considered that ATIC's efforts, temporarily expanded as necessary, could be most useful in implementing any action taken as a result of its recommendations. Experience and records in ATIC would be of value in both the public educational and service training program envisaged. At least one Panel member was of the opinion that after public gullibility lessened and the service organizations, such as ADC, had been trained to sift out the more readily explained spurious sightings, there would still be a role for a very modest-sized ATIC section to cope with the residuum of items of possible scientific intelligence value. This section should concentrate on energetically following up those cases which seemed to indicate the evidence of unconventional enemy artifacts. Reports of such artifacts would be expected to arise mainly from Western outposts in far closer proximity to the Iron Curtain than Lubbock, Texas!

Unofficial Investigating Groups.

The Panel took cognizance of the existence of such groups as the "Civilian Flying Saucer Investigators"

(Los Angeles) and the "Aerial Phenomena Research Organization (Wisconsin)". It was believed that such organizations should be watched because of their potentially great influence on mass thinking if widespread sightings should occur. The apparent irresponsibility and the possible use of such groups for subversive purposes should be kept in mind.

Increase in Number of Sightings.

The consensus of the Panel was, based upon the history of the subject, that the number of sightings could be reasonably expected to increase again this summer.

SCIENTIFIC ADVISORY PANEL ON UNIDENTIFIED

FLYING OBJECTS

14-17 January 1953

Evidence Presented.

1. Seventy-five case histories of sightings 1951-1952 (selected by ATIC as those best documented).

2. ATIC Status and Progress Reports of Project GRDUGE and Project BLUE BOOK (code names for ATIC study of subject).

3. Progress Reports of Project STORK (Institute contract work supporting ATIC).

4. Summary Report of Sightings at Holleman Air Force Base, New Mexico.

5. Report of USAF Research Center, Cambridge, Mass., Investigation of "Green Fireball" Phenomena (Project TWINKLE).

6. Outline of Investigation of UFO's Proposed by Kirtland Air Force Base (Project POUNCE).

7. Motion Picture Films of sightings at Trenonton, Utah, 2 July 1952 and Great Falls, Montana, August 1950.

8. Summary Report of 89 selected cases of sightings of various categories (Formations, Blinking Lights, Hovering, etc.).

9. Draft of manual: "How to Make a FLYOBRPT", prepared at ATIC.

10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.

11. Chart Showing Balloon Launching Sites in the United States.

12. Charts Showing Selected Actual Balloon Flight Paths and Relation to Reported Sightings.

13. Charts Showing Frequency of Reports of Sightings 1948-1952.

14. Charts Showing Categories of Explanations of Sightings.

15. Kodachrome Transparencies of Polyethylene Film Balloons in Bright Sunlight Showing High Reflectivity.

16. Motion Picture of Seagulls in Bright Sunlight Showing High Reflectivity.

17. Intelligence Reports Relating to U.S.S.R. Interest in U.S. Sightings.

18. Samples of Official USAF Reporting Forms and Copies of Pertinent Air Force, Army, and Navy Orders Relating to Subject.

19. Sample Polyethylene "Pillow" Balloon (54 inches square.

20. "Variations in Radar Coverage", JANP 101 (Manuel illustrating unusual operating characteristics of service radar).

21. Miscellaneous Official Letters and Foreign Intelligence Reports Dealing with Subject.

22. Copies of Popular Published Works Dealing with Subject (articles and periodicals, newspaper clippings).